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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/578,652

05/09/2006

Peter Ferdinand Greve

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
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EXAMINER

AKANBI, ISIAKA O

ART UNIT

PAPER NUMBER

2886

MAIL DATE

DELIVERY MODE

11/19/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/578,652

Applicant(s)

GREVE ET AL.

Examiner

Isiaka O. Akanbi

Art Unit

2886

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Preliminary Amendment***

The preliminary amendment filed on 09 May 2006 has been entered into this application.

### ***Drawings***

The drawings filed on 09 May 2006, has been accepted for examination.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by MacDonald et al. (6,195,159 B1).

Regarding claim 1, MacDonald discloses a method of determining the focus of an optical system comprising of the following:

- arranging the optical system (fig. 1A: 5) between an illumination system (fig. 1A: 100) and a radiation-sensitive detection system (fig.1A: 105);
- arranging a test object (fig. 1A: 101) between the illumination system (fig. 1A: 100) and the optical system (fig. 1: 5);

- imaging the test object (fig. 1A: 101) by means of the optical system (fig. 1A: 5) on the detection system (fig. 1A: 105)(see abstract), and

establishing the position of the focal plane from the modulation depth of the test object image , characterized in that the step of arranging a test object comprises arranging a first test object (111, 112 or 113) between the illumination system (fig. 1A: 100) and the expected focal plane of the optical system and a second test object (111, 112 or 113) between this plane and the optical system system (fig. 1A: 5), whereby the first and second test objects are arranged at different locations with respect to the optical axis of the optical system (col. 9, lines 4-32), and in that the step of establishing focus comprises determining the modulation depth of each of the two test object images and subtracting the obtained modulation depth values from each other to obtain a difference value, which represents the position of focus with respect to the positions of the two test objects (col. 2, lines 45-col. 3, line 3).

As to claim 2, MacDonald further discloses the limitation wherein the focus is determined at different points in the field of view of the imaging system (fig. 1A: 105)(col. 10, line 3)(fig. 11)(col. 1, lines 55-65)(col. 9, lines 8-18).

As to claim 3, MacDonald discloses an apparatus for determining focus of an optical system comprising of the following:

a radiation source (fig. 1A: 100) for supplying an illumination beam, a test object (fig. 1A: 101), a location for the optical system (fig. 1A: 5) to be measured, a radiation-sensitive detection system (fig. 1A: 105) and processing means (fig. 2: 4) for processing signals from the detection system, characterized in that the test object comprises two sub-objects (fig. 5: 111, 112 or 113) , which are arranged at different sides of the expected best focus of the optical system and at different locations with respect to the axis of the apparatus, in that the radiation-sensitive detection system (CCD arrays) comprises separate detection areas for the images of the sub-

objects and in that the processing means (fig. 2: 4) comprises means for calculating (MTF) the difference in contrast of the images (col. 1, lines 27-28)(col. 17, lines 56-col. 18, line 24)(figs. 7 and 8C).

As to claims 4-5, MacDonald also discloses **the target pattern 101 comprises an opaque metallic substrate which includes a plurality of features 110, such as apertures, or slits, passing therethrough and arranged in a target pattern (applicant's grating) which is back-illuminated by the light source 100 such that light passes through the features 110. Alternately, a glass substrate (applicant's transparent plate) may be used. In this case, a glass substrate is masked by a substantially opaque background region, which prevents light from the light source 100 from reaching the detector 105. The features 110 may then be formed in the masked opaque background, e.g. by a photo-etching process which is well known (col. 8, lines 41-51), meeting the applicant limitations that the sub-objects are gratings and that the gratings are arranged at the front side and the rear side, respectively of a transparent plate.**

As to claim 6, MacDonald further discloses the limitation of an additional lens system that is arranged between the optical system and the sub-object that is most close to the optical system (col. 9, lines 45-50).

#### **Additional Prior Art**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references listed in the attached form PTO-892 teach of other prior art method of determining the focus of an optical system that may anticipate or obviate the claims of the applicant's invention.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isiaka Akanbi whose telephone number is (571) 272-8658. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifur R. Chowdhury can be reached on (571) 272-2287. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isiaka Akanbi

November 13, 2007

  
TARIFUR CHOWDHURY  
SUPERVISORY PATENT EXAMINER